

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-081374

(43)Date of publication of application : 21.03.2000

(51)Int.Cl.

G01M 11/02  
G02B 6/00

(21)Application number : 10-250856

(71)Applicant : ITO HIROMASA

(22)Date of filing : 04.09.1998

(72)Inventor : YOSHIDA MASATO  
NAKAMURA KOICHIRO  
ITO HIROMASA

## (54) METHOD AND DEVICE FOR MEASURING WAVELENGTH DISPERSION

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a method and device for measuring wavelength dispersion that can measure the absolute value and the code of the wavelength dispersion value of an optical fiber of continuous length by the OFDR method, is capable of telemetry without being affected by the nonlinear optical effect of an optical fiber and without being affected by such a disturbance of temperature change, and can simultaneously measure the total wavelength dispersion value of a light transmission line including a linear repeater using an optical amplifier.

**SOLUTION:** A wavelength dispersion measuring device 10 for obtaining the total wavelength

dispersion value of an optical fiber 4 to be measured is composed, where the device is provided with a light-branching means 2 for branching frequency chirp light that is outputted from a frequency shift feedback type laser 1 into two portions, a light waveform observation means 3 for measuring the spectrum intensity of one light signal being branched from the light-branching means 2, a photoelectric conversion means 7 for measuring the spectrum intensity of a beat signal being generated by mixing Fresnel reflection light from the input/output terminals 5 and 6, and an RF spectrum intensity measurement means 9.

